





# Two Year Action Plan (from 1/2016)

The SGC has been working with the California Biodiversity Council (CBC), particularly the Interagency Alignment Team (IAT), to advance this initiative.

## **Activity 1. Framework and Standards**

- Develop and document standards and methods for the implementation of the IRCAD program in California.

## **Activity 2. Project Implementation**

- Promote the development of regional conservation assessments to demonstrate the process and value of this approach.

## **Activity 3. Information and Technology Support**

- Implement a technology platform that will support the development, integration, analysis of application of data to advance the implementation of IRCAD project objectives.

## **Activity 4. Policy and Fiscal Strategies**

- Identify and advance financial and policy strategies to support the implementation and institutionalization of IRCAD.

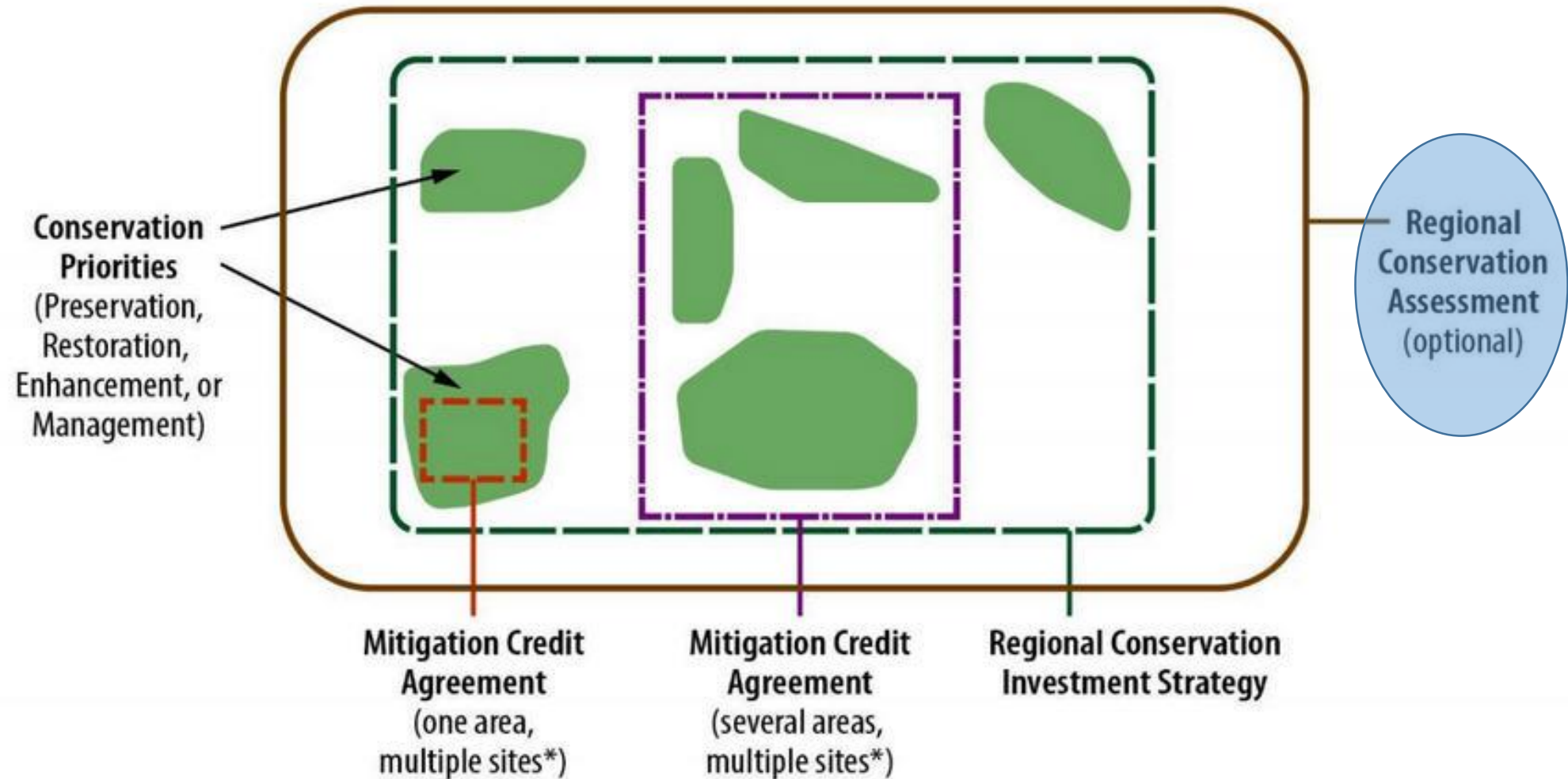
# Discussion Questions

We want your input regarding the future of RCAs and the IRCAD initiative. Please consider the following points during this presentation, for discussion during the next session.

1. What is most useful about standardized Regional Conservation Assessments and the IRCAD approach?
2. What are impediments to carrying out Regional Conservation Assessments across the State?
3. How can RCAs be improved and brought into practice?
4. How can your organization help to mainstream the implementation of RCAs?

# AB 2087

## Program Framework: On the Ground



# Wildlife Conservation Board: RCA Demonstration Project

Project deliverables include:

- Standardized RCA methodology that is tested and refined through implementation in two demonstration ecoregions.
- Biodiversity and Conservation Value Dataset to provide the foundation for conservation assessment and planning.
- Technology Platform to explore and identify areas of greatest conservation value for selected targets.
- Information Context to select areas with high probability of long term conservation success and associated ecosystem service co-benefits.
- Evaluation and Reporting Tools to demonstrate the effectiveness of specific sites and projects to achieve conservation goals.

# Partners and Contributors

## IRCAD Inter-agency Working Group

- Strategic Growth Council
- California Department of fish and Wildlife
- Caltrans
- California Energy Commission
- US Fish and Wildlife Service
- California Department of Conservation
- California Department of Water Resources
- The Nature Conservancy
- UC Davis

## WCB Project Partners

- Strategic Growth Council
- Conservation Biology Institute
- UC Davis
- California Energy Commission
- California Department of Fish and Wildlife



# Mojave Conservation Targets: Approximately 400

## 1. Species

- Federal: Endangered, Threatened, Rare, Candidate “T or E”
- State: Endangered, Threatened, Rare, Candidate “T or E”
- CDFW Status: SWAP, Rare, Watch List, and Fully Protected
- CNPS Plant Ranks of 1B or 2B
- All S1, S2, G1, G2 Ranks
- Focal species from existing NCCPs, HCPs, etc. (e.g., DRECP and Antelope Valley RCIS)

## 2. Vegetation Types

- S1 and S2 Alliances

## 3. Other Special Ecosystems/Habitats

- Wetlands
- Other



# Mojave Conservation Targets: Species

<i>Agelaius tricolor</i>	tricolored blackbird	Inside	Mapped		Y		Y
<i>Anaxyrus californicus</i>	arroyo toad	Inside	Mapped			Y	
<i>Antrozous pallidus</i>	Pallid bat	Inside	Mapped		Y		Y
<i>Asio otus</i>	Long-eared owl	Inside	Mapped		Y		
<i>Astragalus jaegerianus</i>	Lane Mountain milk-vetch	Inside	Mapped			Y	Y
<i>Astragalus tricarlinatus</i>	triple-ribbed milk-vetch	Inside	Mapped			Y	Y
<i>Athene cunicularia</i>	Burrowing owl	Inside	Mapped		Y		
<i>Batrachoseps stebbinsi</i>	Tehachapi slender salamander	Inside	Mapped				Y
<i>Buteo swainsoni</i>	Swainson's hawk	Inside	Mapped		Y		Y
<i>Catostomus fumeiventris</i>	Owens sucker	Inside	Mapped				
<i>Charadrius montanus</i>	mountain plover	Inside	Mapped		Y	Y	Y
<i>Circus cyaneus</i>	Northern harrier	Inside	Mapped		Y		
<i>Coccyzus americanus occidentalis</i>	Western yellow-billed cuckoo	Inside	Mapped		Y		
<i>Colaptes chrysoides</i>	Gilded flicker	Inside	Mapped		Y		
<i>Corynorhinus townsendii</i>	Townsend's big-eared bat	Inside	Mapped		Y		Y
<i>Cyprinodon radiosus</i>	Owens pupfish	Inside	Mapped				Y
<i>Deinandra mohavensis</i>	Mojave tarplant	Inside	Mapped				Y
<i>Empidonax traillii extimus</i>	Southwestern willow flycatcher	Inside	Mapped		Y	Y	Y
<i>Erigeron parishii</i>	Parish's daisy	Inside	Mapped				Y
<i>Gila orcuttii</i>	arroyo chub	Inside	Mapped				
<i>Gopherus agassizii</i>	desert tortoise	Inside	Mapped		Y	Y	Y
<i>Grindelia fraxinipratensis</i>	Ash Meadows gumplant	Inside	Mapped			Y	Y
<i>Gymnogyps californianus</i>	California condor	Inside	Mapped		Y		
<i>Lanius ludovicianus</i>	Loggerhead shrike	Inside	Mapped		Y		
<i>Macrotus californicus</i>	California leaf-nosed bat	Inside	Mapped				Y
<i>Micrathene whitneyi</i>	Elf owl	Inside	Mapped		Y		
<i>Microtus californicus mohavensis</i>	Mohave river vole	Inside	Mapped		Y		
<i>Ovis canadensis nelsoni</i>	Desert bighorn sheep	Inside	Mapped		Y		Y
<i>Perognathus alticolus inexpectatus</i>	Tehachapi pocket mouse	Inside	Mapped		Y		Y
<i>Perognathus inornatus neglectus</i>	McKittrick pocket mouse	Inside	Mapped				
<i>Perognathus parvus xanthanotus</i>	Yellow-eared pocket mouse	Inside	Mapped		Y		

# Mojave Conservation Targets: Vegetation Types

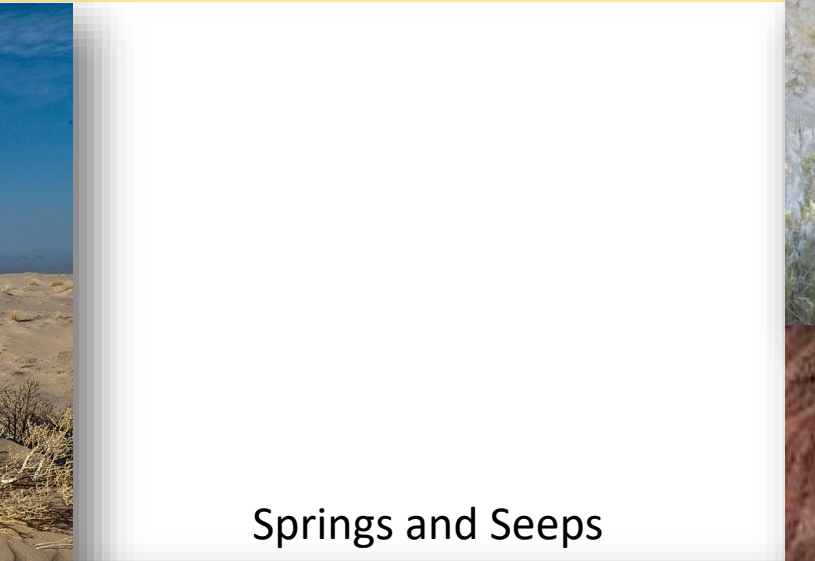
Ecosystems			
<u>Scientific Name</u>	<u>Common Name</u>	<u>Mojave Name</u>	<u>State Rank</u>
<i>Spartina gracilis</i>	Alkali cordgrass marsh	Southwestern North American alkali marsh/seep vegetation	S1
<i>Sporobolus airoides</i>	Alkali sacaton grassland	<i>Sporobolus airoides</i>	S2.2
<i>Hilaria rigida</i>	Big galleta shrub-steppe	<i>Pleuraphis rigida</i>	S2.2
<i>Fremontodendron californicum</i>	California flannelbush	<i>Fremontodendron californicum</i>	S2
<i>Castela emoryi</i>	Crucifixion thorn stands	<i>Castela emoryi</i>	S1.1
<i>Ephedra funerea</i>	Death Valley joint fir scrub	<i>Ephedra funerea</i>	S2.3??
<i>Muhlenbergia rigens</i>	Deer grass beds		S2?
<i>Dicoria canescens</i> - <i>Abronia villosa</i>	Desert dunes	<i>Dicoria canescens</i> - <i>Abronia villosa</i>	S2.2
<i>Stipa speciosa</i>	Desert needlegrass grassland	<i>Achnatherum speciosum</i>	S2.2
<i>Forestiera pubescens</i>	Desert olive patches	<i>Forestiera pubescens</i>	S2.2
<i>Panicum urvilleanum</i>	Desert panic grass patches	<i>Panicum urvilleanum</i>	S1.2
<i>Salvia dorrii</i>	Desert purple sage scrub		S2.3
<i>Ruppia (cirrhosa, maritima)</i>	Ditch-grass or widgeon-grass mats	Southwestern North American alkali marsh/seep vegetation	S2
<i>Parkinsonia microphylla</i>	Foothill palo verde desert scrub	<i>Parkinsonia microphylla</i>	S1.2
<i>Ziziphus obtusifolia</i>	Graythorn patches		S2?
<i>Tetracoccus hallii</i>	Hall's shrubby-spurge patches	<i>Tetracoccus hallii</i>	S1.1
<i>Eriogonum heermannii</i>	Heermann's buckwheat patches		S2?
<i>Stipa hymenoides</i>	Indian rice grass grassland	<i>Achnatherum hymenoides</i>	S1.2
<i>Juncus xiphioides</i>	Iris-leaf rush seeps		S2?
<i>Hilaria jamesii</i>	James' galleta shrub-steppe		S2.2
<i>Nolina (bigelovii, parryi)</i>	Nolina scrub	Intermountain shallow/calcareous soil scrub	S2.2
<i>Prosopis pubescens</i>	Screwbean mesquite bosques		S2.2
<i>Quercus turbinella</i>	Sonoran live oak scrub		S1.3
<i>Pinus edulis</i>	Two-needle pinyon stands		S2?
<i>Betula occidentalis</i>	Water birch thicket		S2.2
<i>Sesuvium verrucosum</i>	Western sea-purslane marshes	Southwestern North American alkali marsh/seep vegetation	S2.2?
<i>Krascheninnikovia lanata</i>	Winterfat scrubland	<i>Krascheninnikovia lanata</i>	S2
<i>Anemopsis californica</i>	Yerba mansa meadows	Southwestern North American alkali marsh/seep vegetation	S2?



# Mojave Conservation Targets: Special Habitats



Dunes and Sand Sources



Springs and Seeps

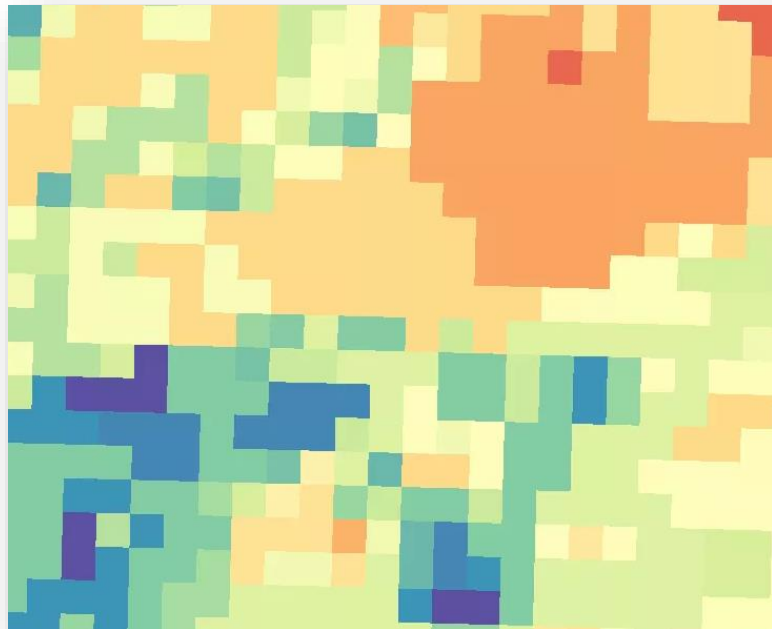


Caves, Mines, and Cliffs



# Conservation Value Modeling

- Units of analysis are 1x1 kilometer reporting units
- The base conservation value for each target is based on its documented conservation status (weighted on an 8-1 scale based on Global and State conservation ranks)

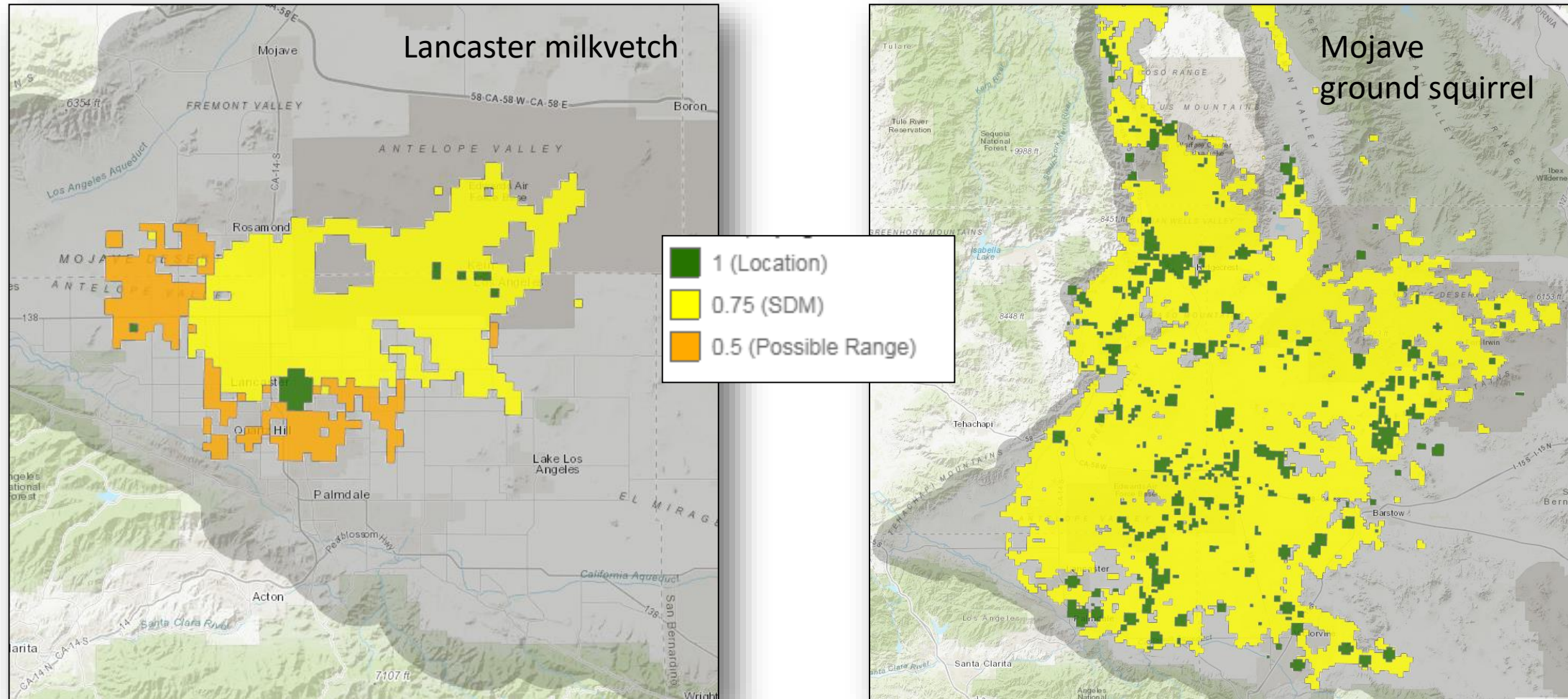


8	-	S1,G1
7	-	S1, G2
6	-	S1, G3-G5
5	-	S2,G2
4	-	S2, G3-G5
3	-	S3,G3
2	-	S3, G4-G5
1	-	S4-S5 (other)



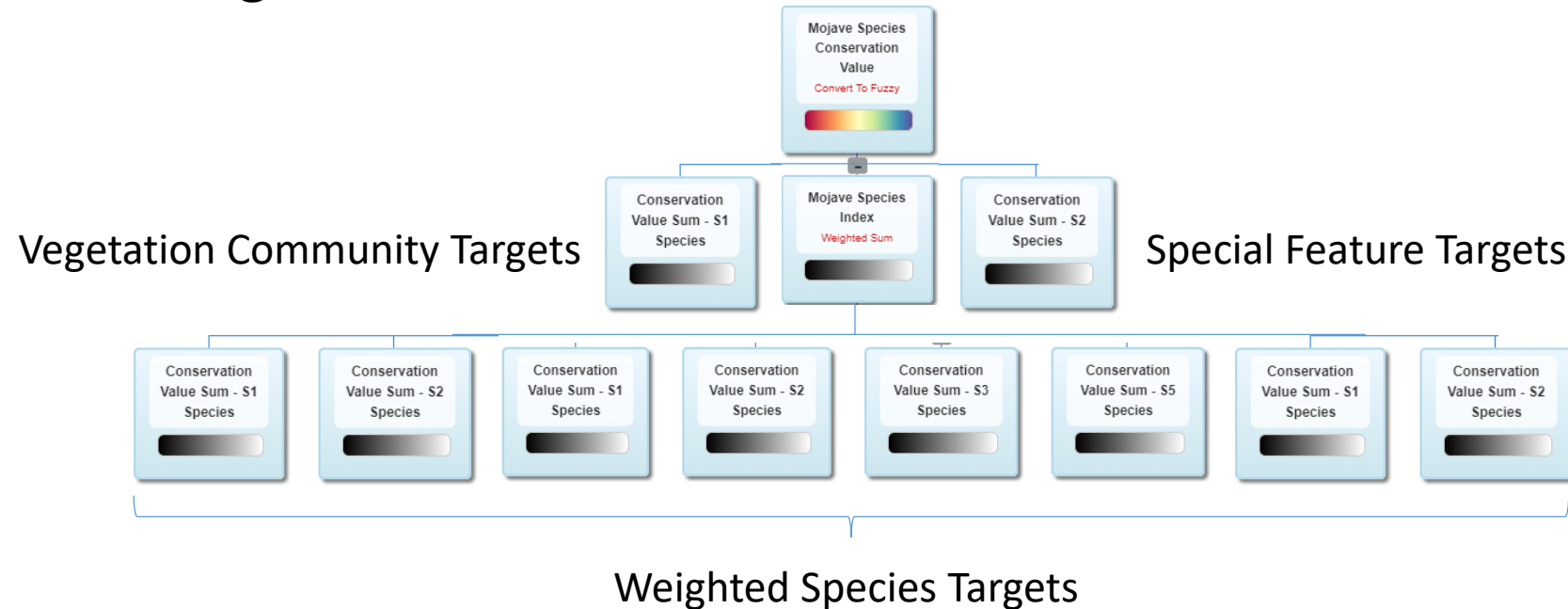
# Conservation Value Modeling

- The specific conservation value for each target is determined by probability of occurrence. CNDDDB Location/Point Locations = 1, Expert or stat model output = 0.75, Range maps = 0.5



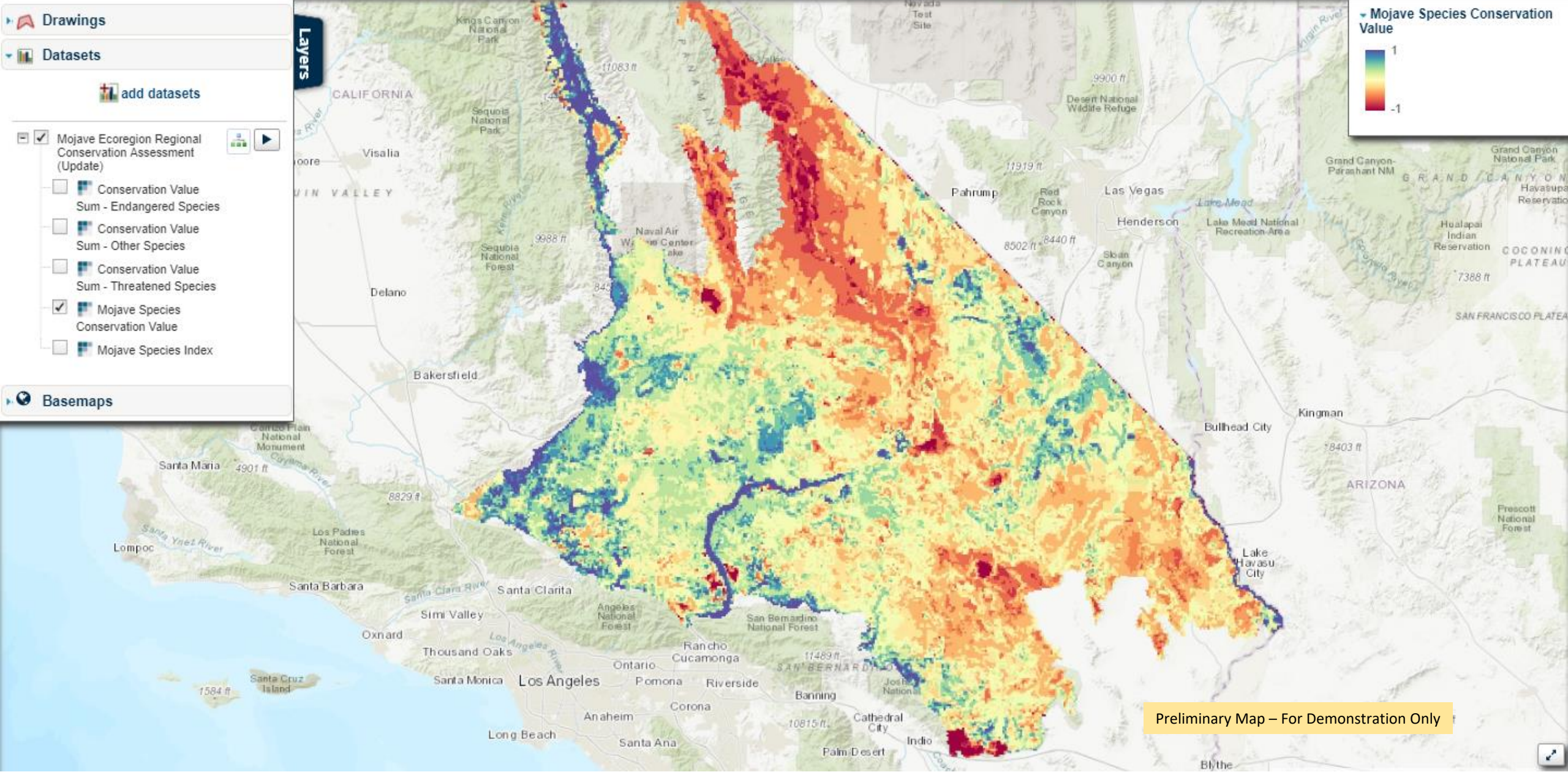
# Conservation Value Modeling

Logic model represents conservation values for all conservation targets across the Mojave Ecoregion.



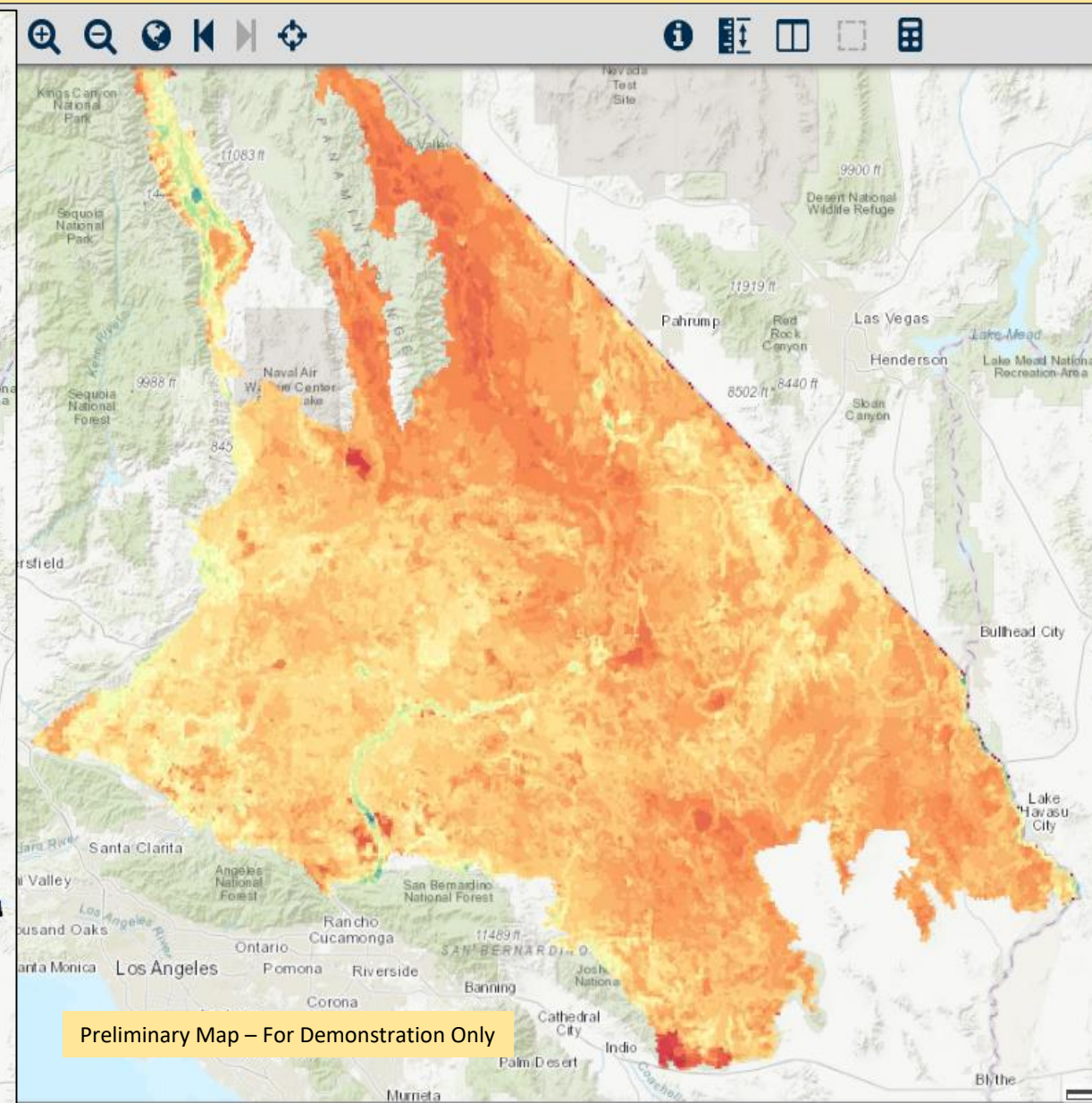
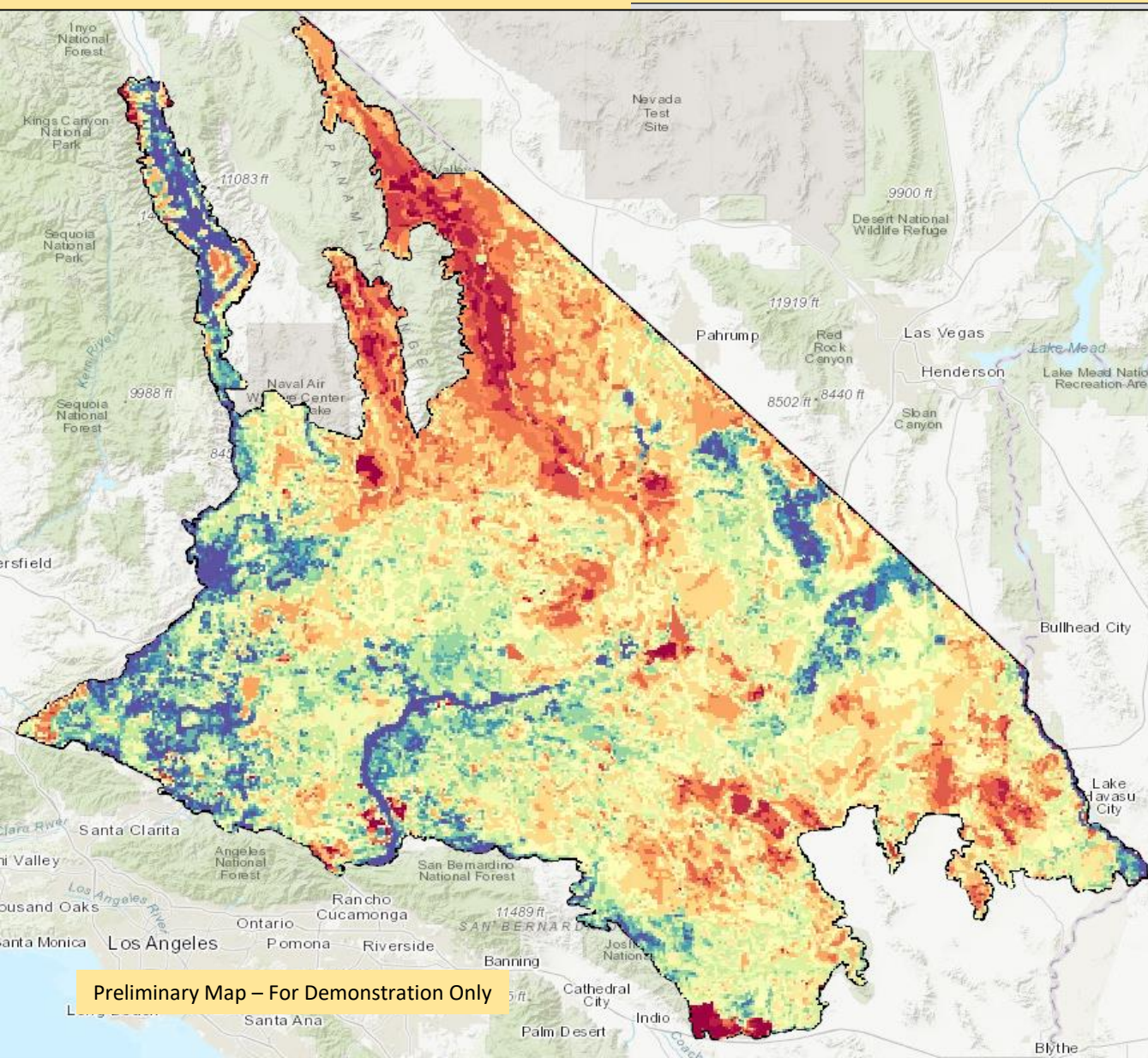


# Ecoregional Conservation Value



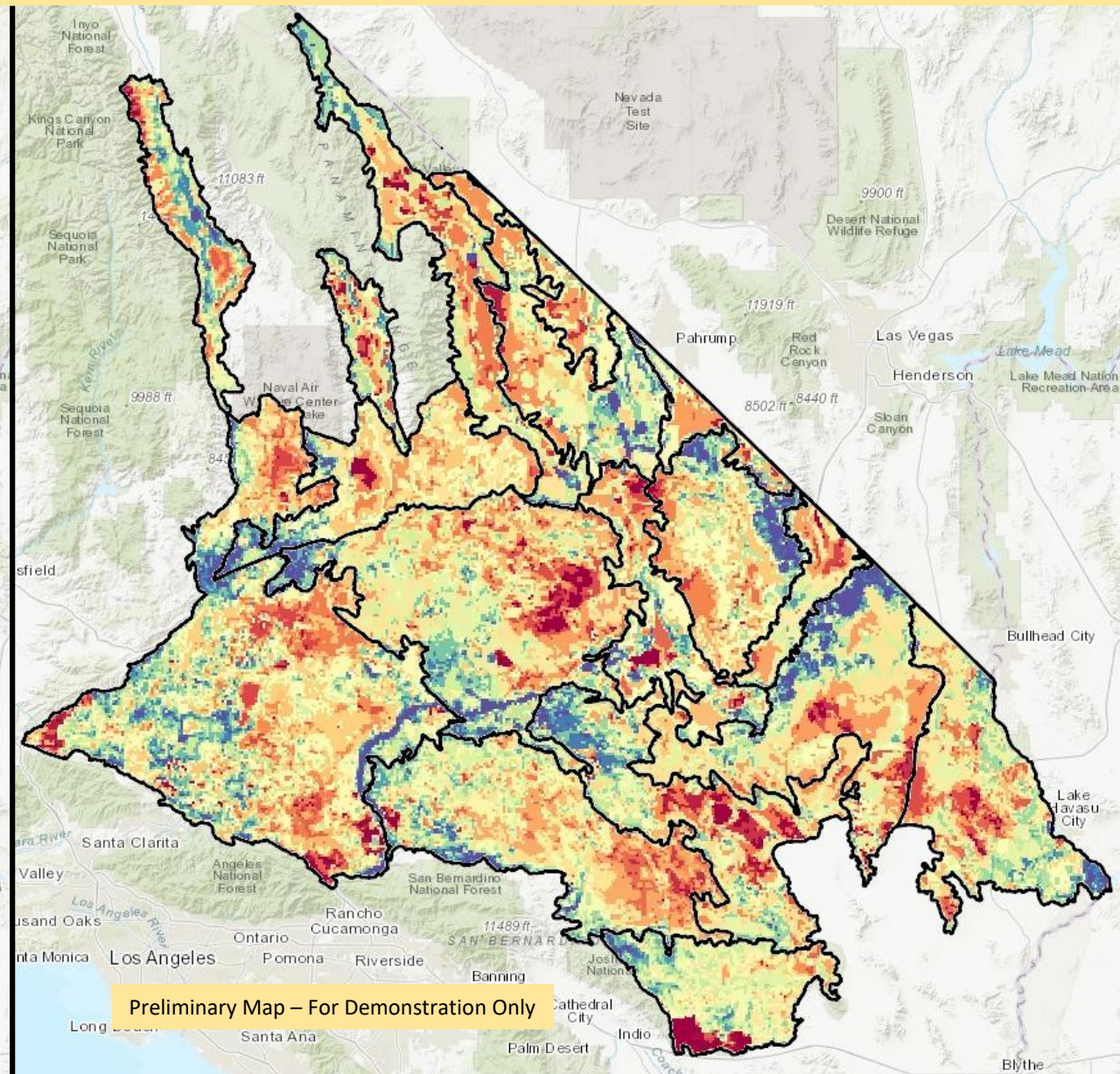
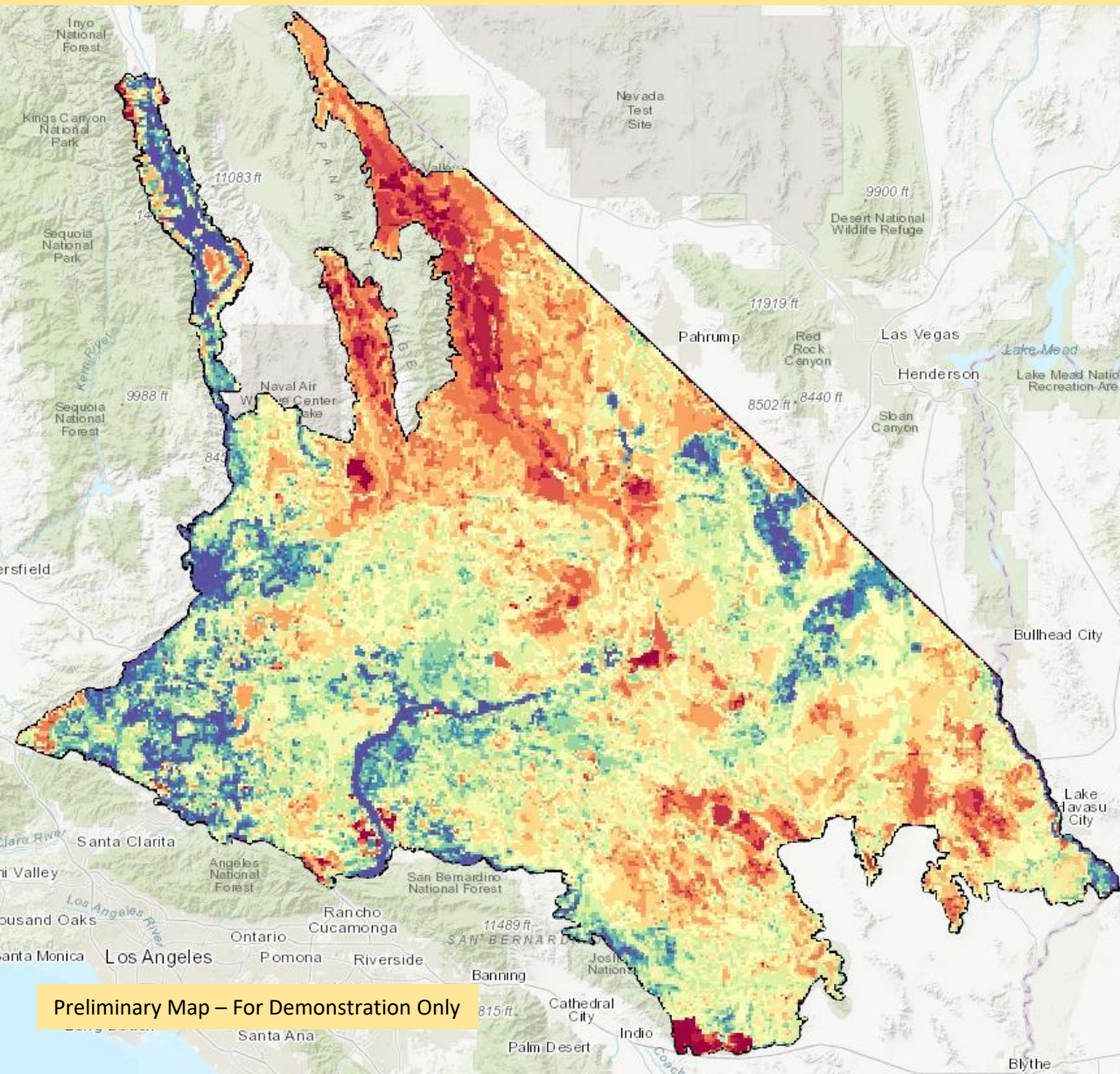


# Conservation Value: Ecoregion Section & Subsection





# Conservation Value: Ecoregion Section & Subsection

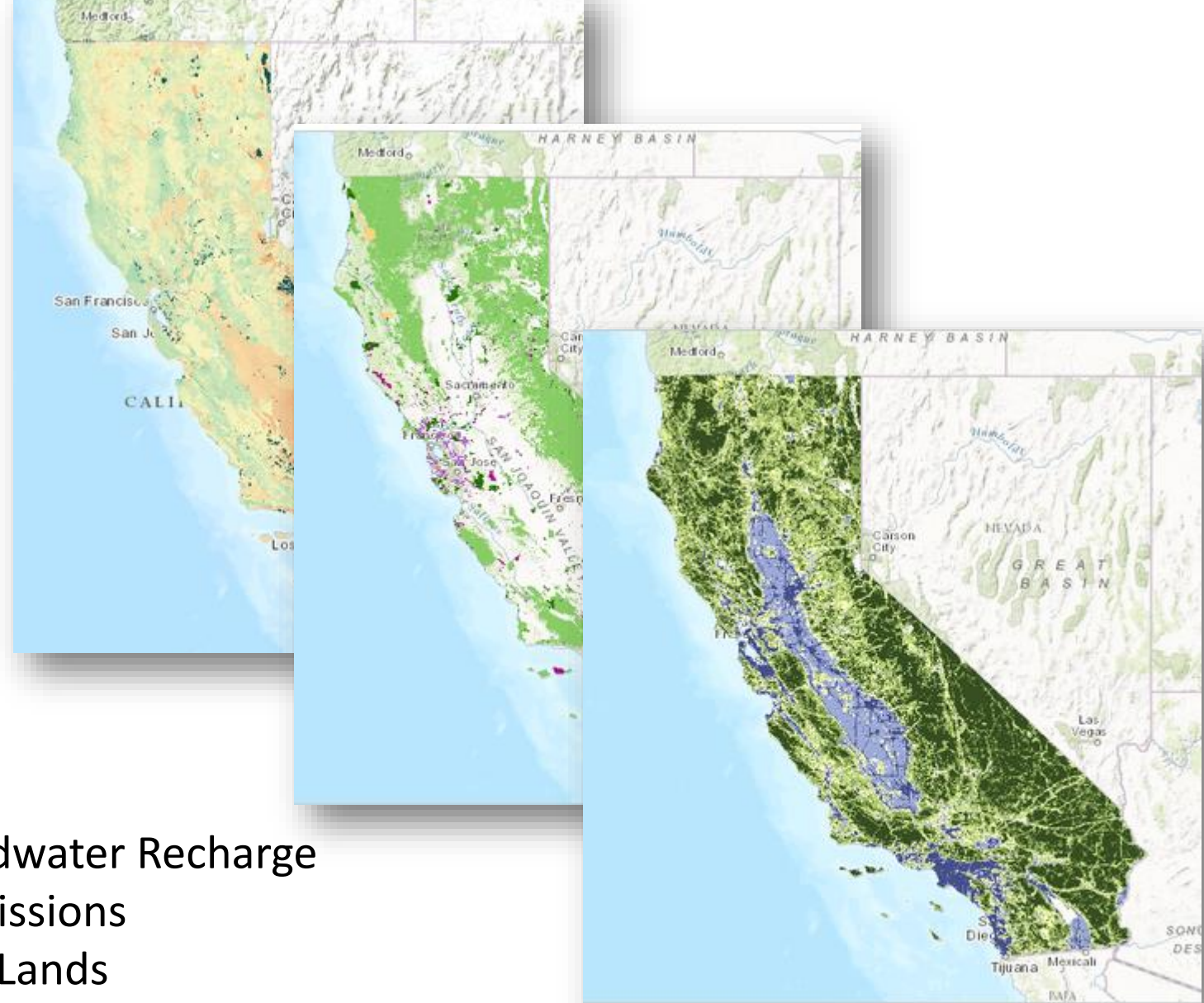




# Data Layers to Provide Planning Context

## Planning Activities informed by:

- Opportunity Data Layers
  - Corridors and Connectivity
  - Protected Areas & Easements
  - Ownership
  - Landscape Intactness
  - SWAP Priority Areas
- Threat Data Layers
  - Climate Change
  - Probability of Development
  - Fragmentation
  - Invasive species
- Ecosystem Service Co-benefits
  - Water Management & Groundwater Recharge
  - Carbon Sequestration and Emissions
  - Prime Agricultural and Range Lands





# Regional Conservation Assessment Planning Tool

Log In ▾

Select Ecoregion

Select Targets

Review Model

Assess Areas

Get Results

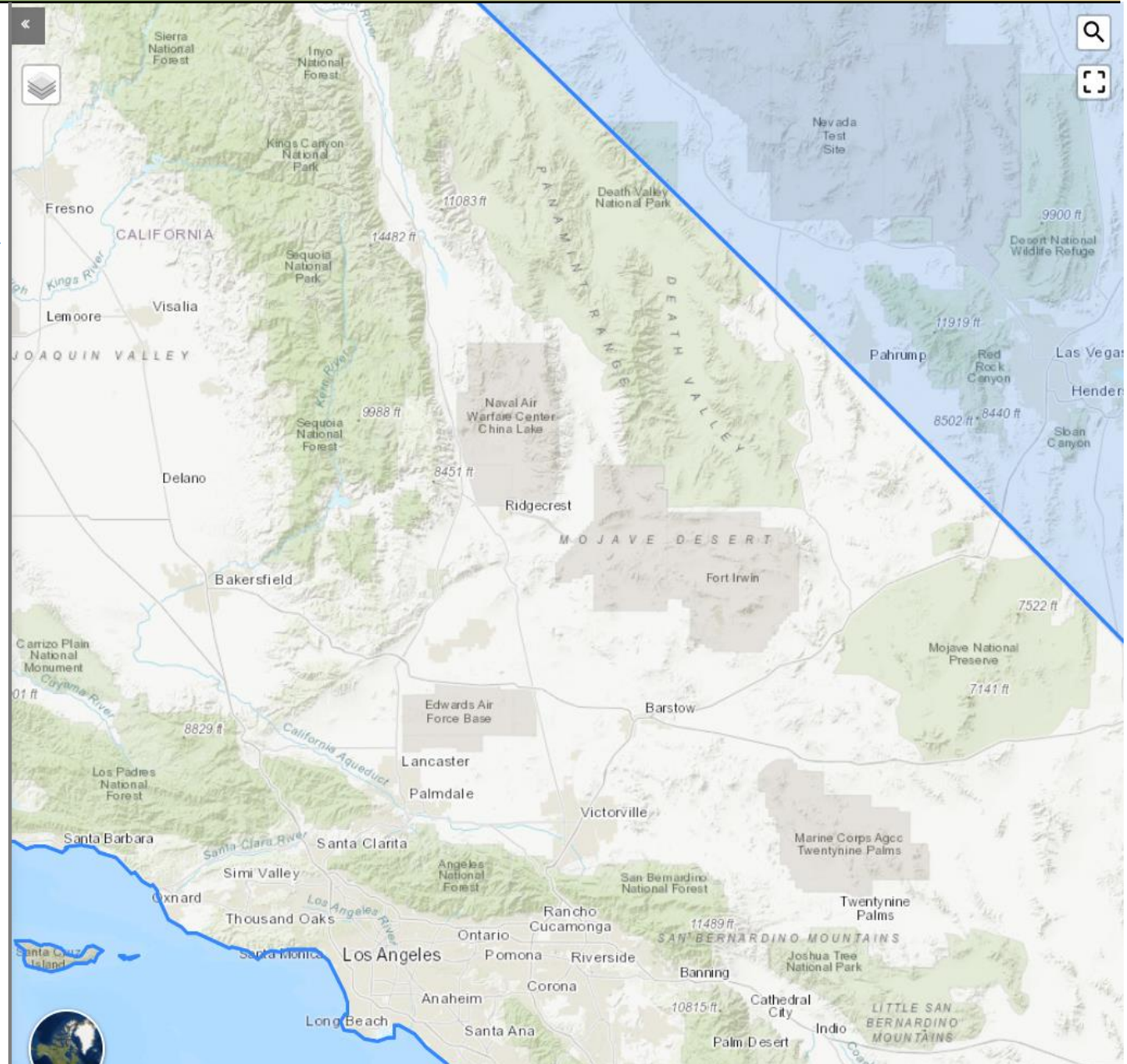
## Introduction

What does this tool do? ⓘ

Brief description text

Getting Started ⓘ

Brief description text







## Select Ecoregion

Select Targets

Review Model

Assess Areas

Get Results

## Select Ecoregion

Click on map to select ecoregion







Select Ecoregion

**Select Targets**

Review Model

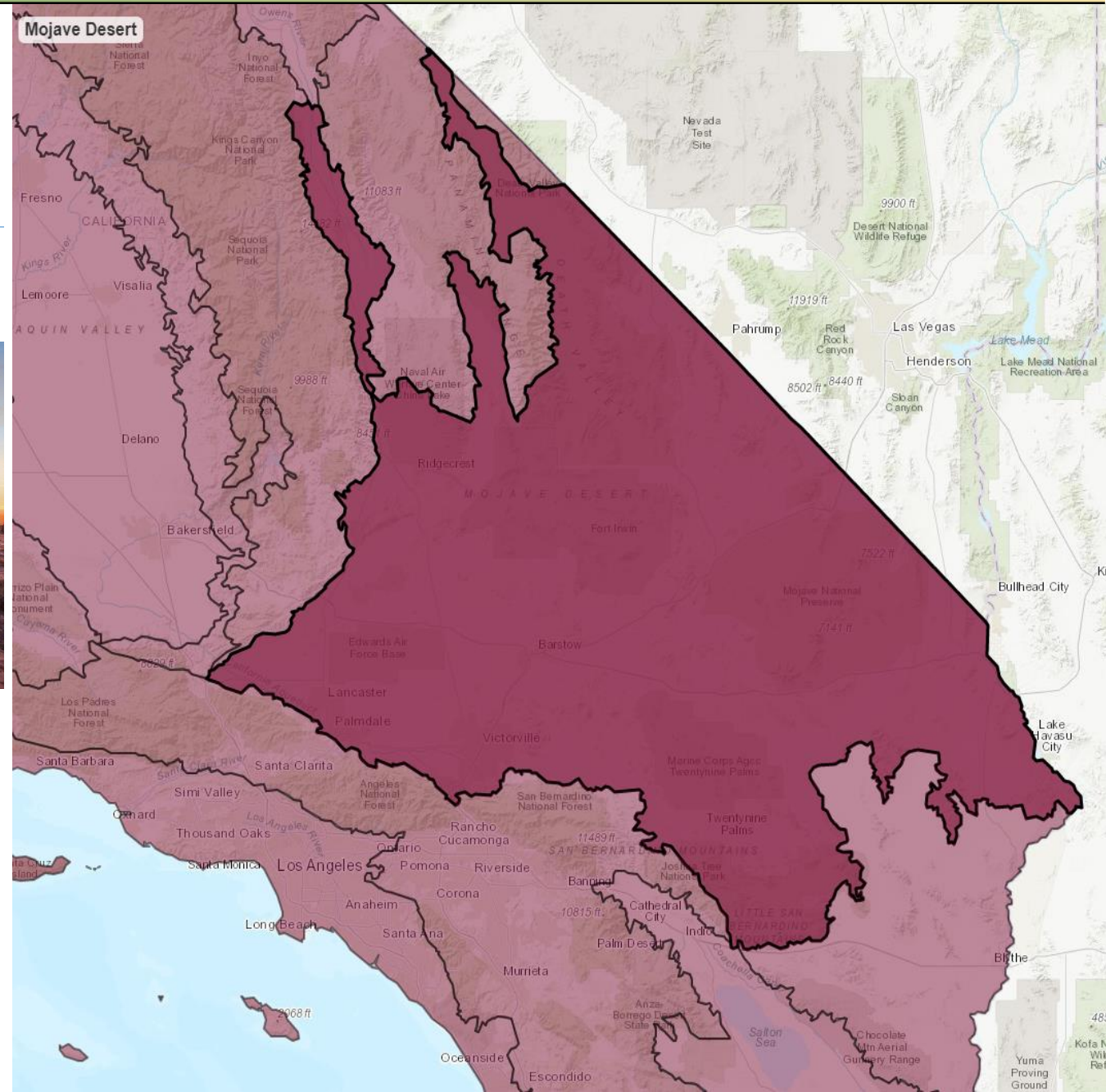
Assess Areas

Get Results

## Mojave Desert



General information about the ecoregion





# Regional Conservation Assessment Planning Tool

Log In ▾



Select Ecoregion









**Select Targets**

Review Model

Assess Areas

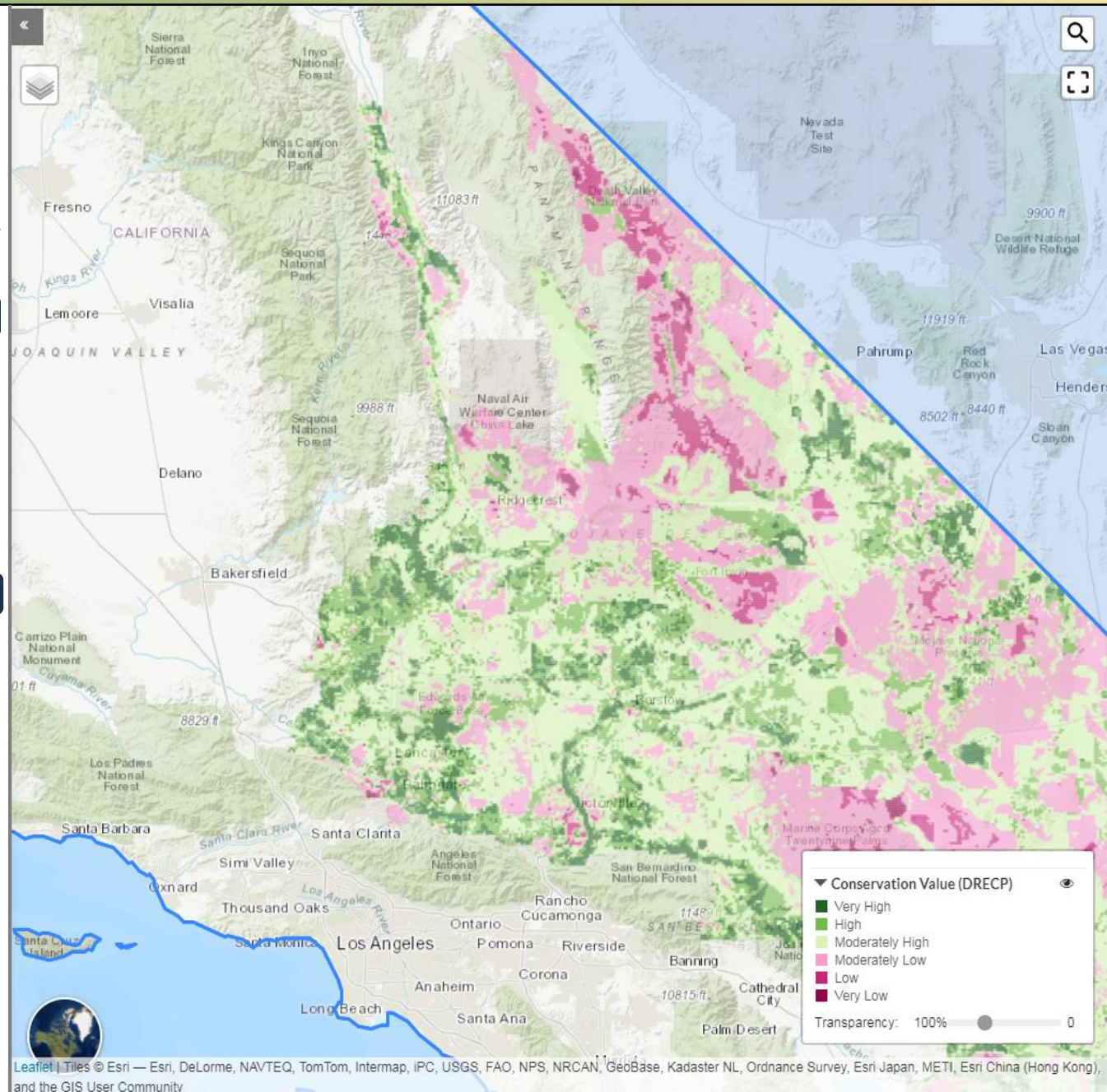
Get Results

## 1. Standard Conservation Value Maps

- ☒ All Targets (default)  
- ☐ Legal Status Targets  
- ☐ Conservation Status Targets  
- ☐ Legal & Conservation Status Targets  

## 2. Custom Selection of Conservation Targets

View Models in Data Basin 





Drawings

Datasets

Layers

EEMS Explorer

Model: Conservation Value (1km), I

Examine Values at Location

Click on a model node to see results for that node



What is EEMS?

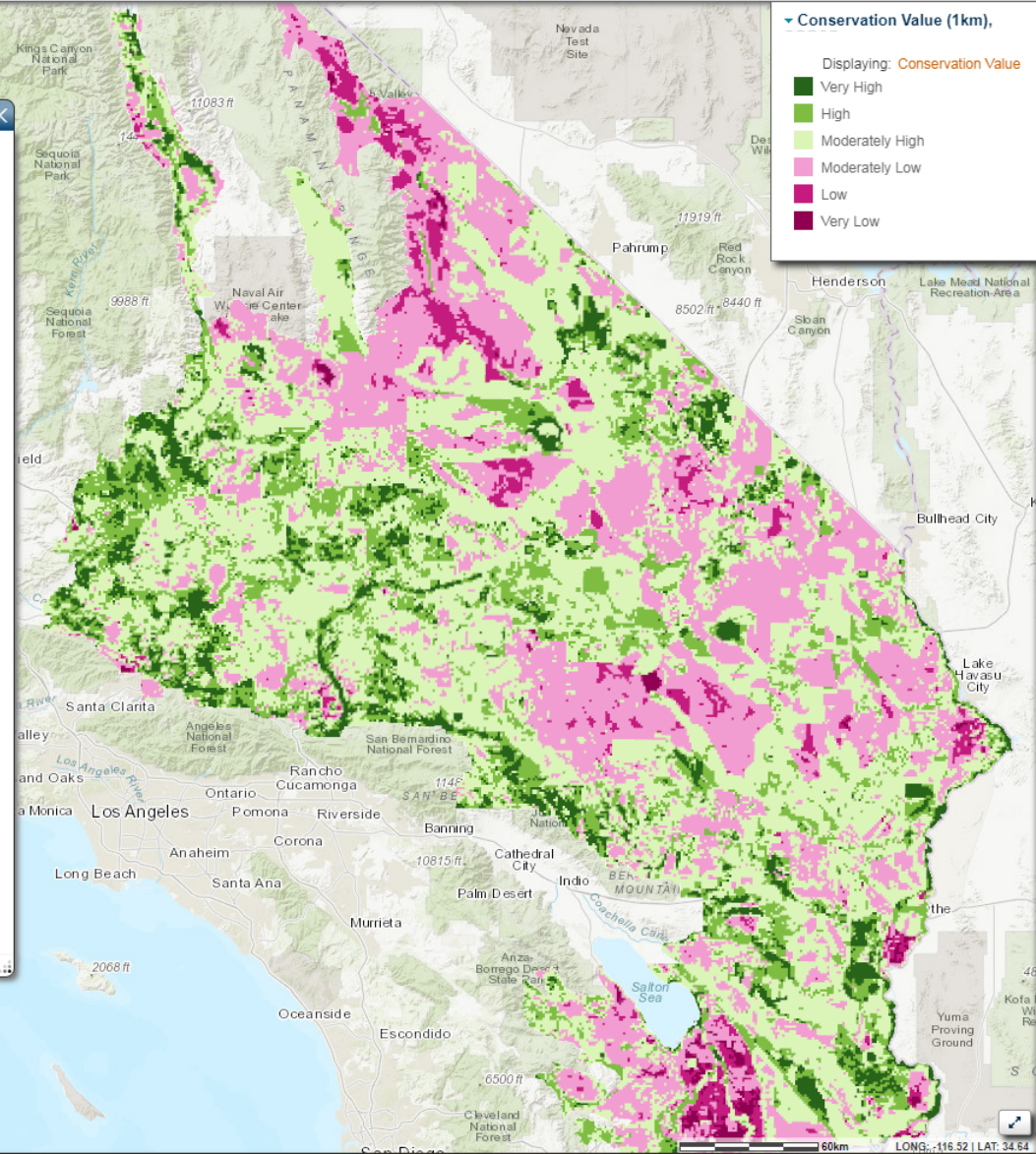
Click and drag to move the model. Zoom using the slider in the upper-right of the diagram, or using your mouse wheel.

Back

Conservation Value (1km),

Displaying: Conservation Value

- Very High
- High
- Moderately High
- Moderately Low
- Low
- Very Low





# Regional Conservation Assessment Planning Tool

Log In ▾



Select Ecoregion









**Select Targets**

Review Model


Assess Areas

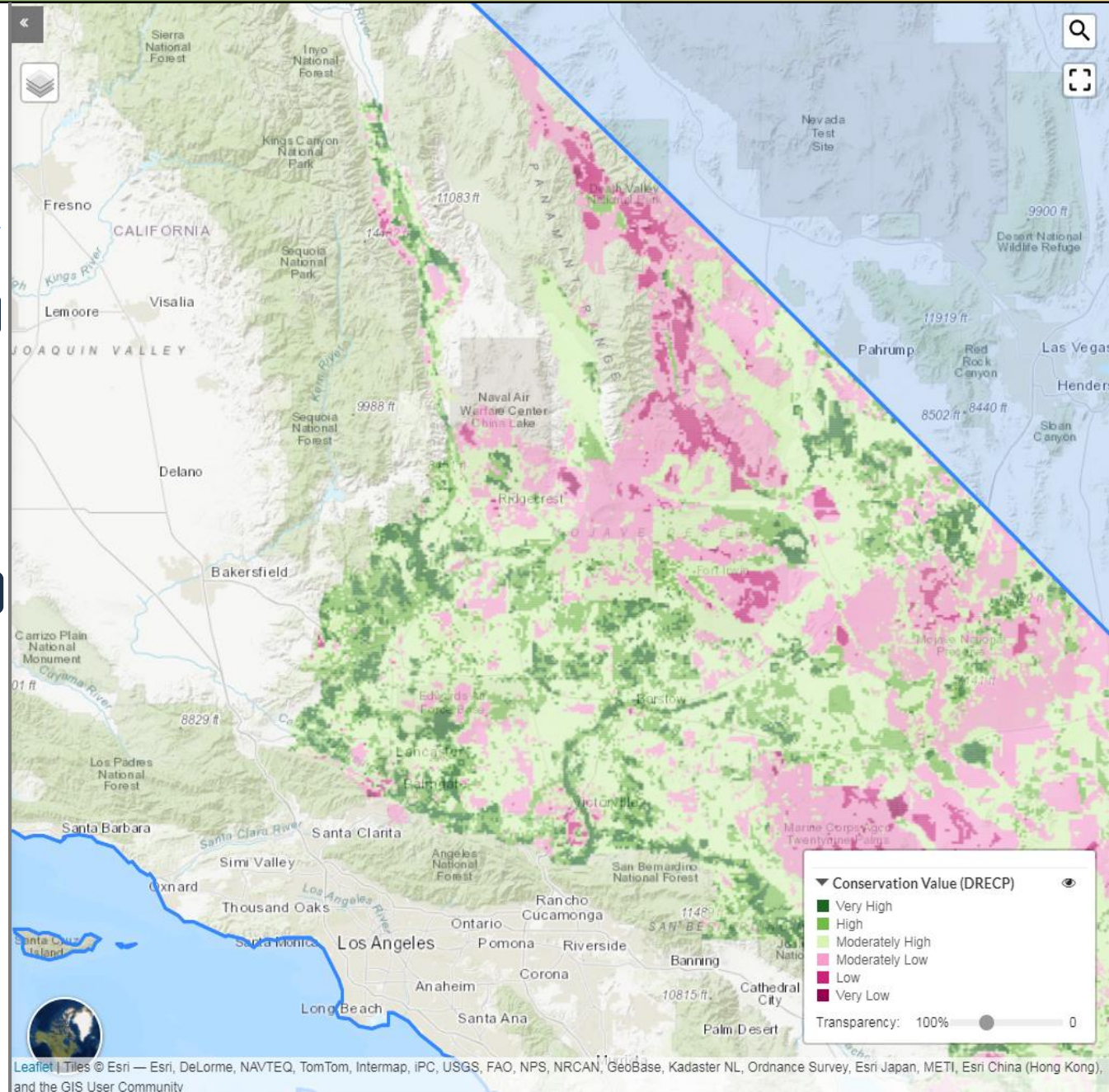
Get Results

## 1. Standard Conservation Value Maps

- ☒ All Targets (default)  
- ☐ Legal Status Targets  
- ☐ Conservation Status Targets  
- ☐ Legal & Conservation Status Targets  

## 2. Custom Selection of Conservation Targets

View Models in Data Basin 







Select Ecoregion

**Select Targets**

Review Model

Assess Areas

Get Results

All Targets

## 2. Custom Selection of Conservation Targets

### 1 Species

Mammals +

Birds +

Reptiles +

Amphibians +

Fishes +

Invertebrates +

Plants +

### 2 Ecosystems

☒ Focal Ecosystems + i



### 3 Special Features

☒ Focal Special Features i

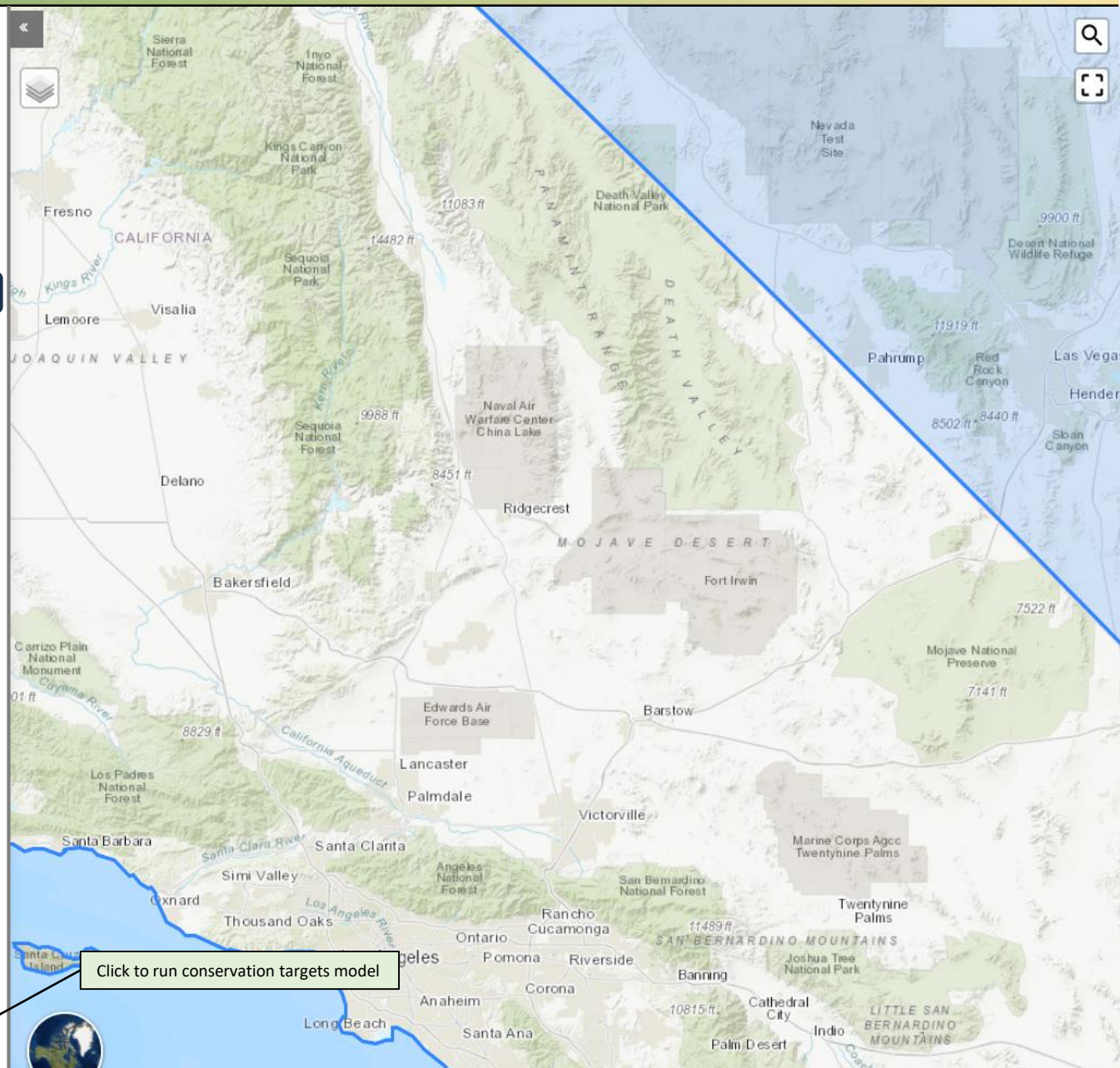


☒ Sand Source Areas ☒ Spring and Seeps

☒ Sand Dunes ☒ Caves, Mines, and Cliffs

Back

Run Model





Select Ecoregion

**Select Targets**

Review Model

Assess Areas

Get Results

## 2. Custom Selection of Conservation Targets

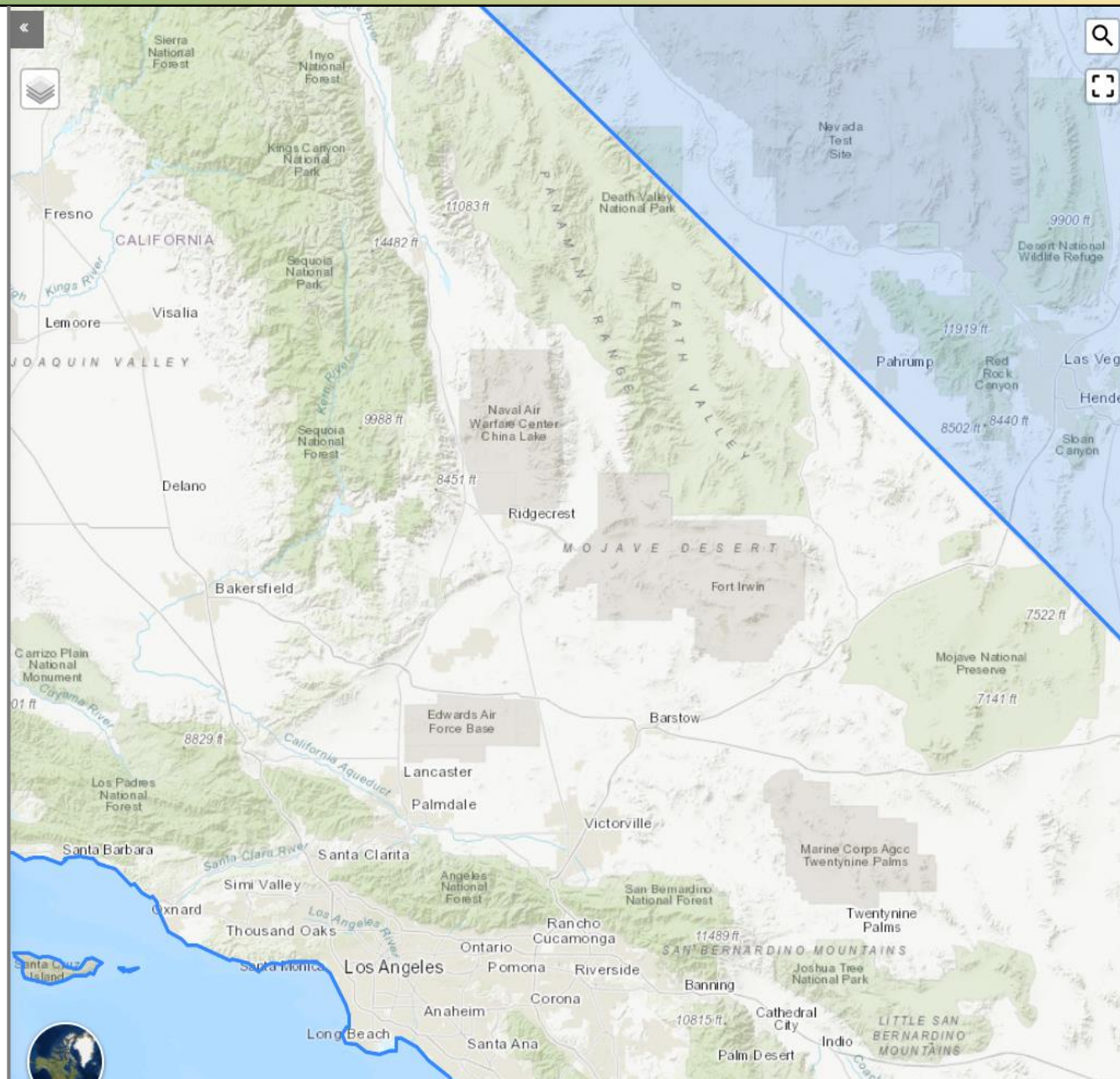
- ☒ Mammals +
- ☒ Birds +
- ☒ Reptiles +
- ☒ Amphibians +
- ☒ Fishes +
- ☒ Invertebrates +
- ☒ Plants +

- ☒ Mammals -
- ☒ Bats
  - ☒ Townsend's big-eared bat
  - ☒ California leaf-nosed bat
  - ☒ Long-legged myotis
  - ☒ Cave myotis
  - ☒ Big free-tailed bat
  - ☒ Pallid bat

- ☒ Rodents
  - ☒ Mojave ground squirrel
  - ☒ Yellow-eared pocket mouse
  - ☒ McKittrick pocket mouse
  - ☒ Tehachapi pocket mouse
  - ☒ Mohave River vole

Back

Run Targets Model





# Regional Conservation Assessment Planning Tool

Log In ▾



Select Ecoregion

Select Targets

**Review Model**

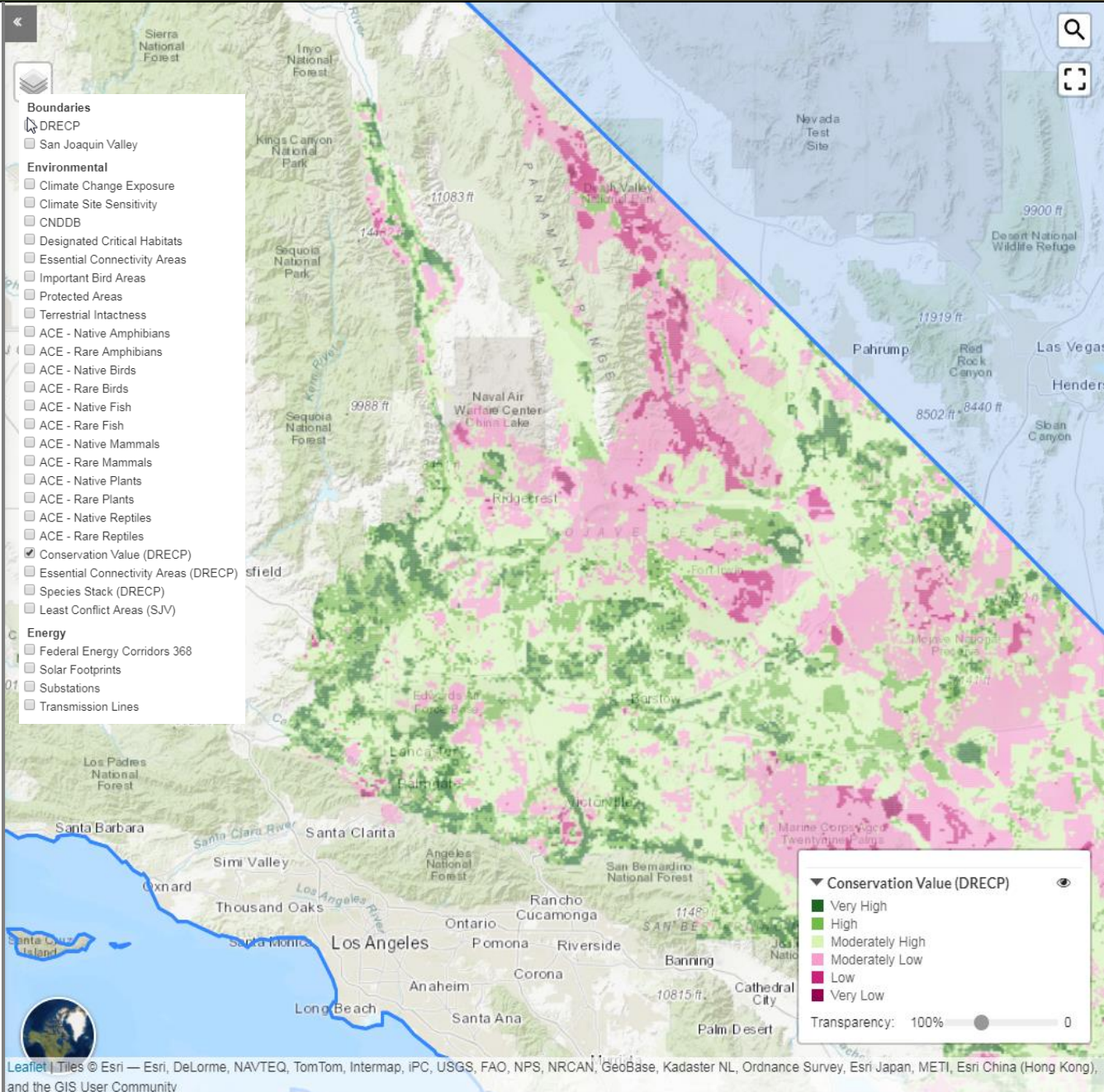
Assess Areas

Get Results

Go Back

Save

View in Data Basin





# Regional Conservation Assessment Planning Tool

Log In ▾




Select Ecoregion

Select Targets

Review Model

**Assess Areas**

Get Results

Click on Draw button to start creating your study areas 

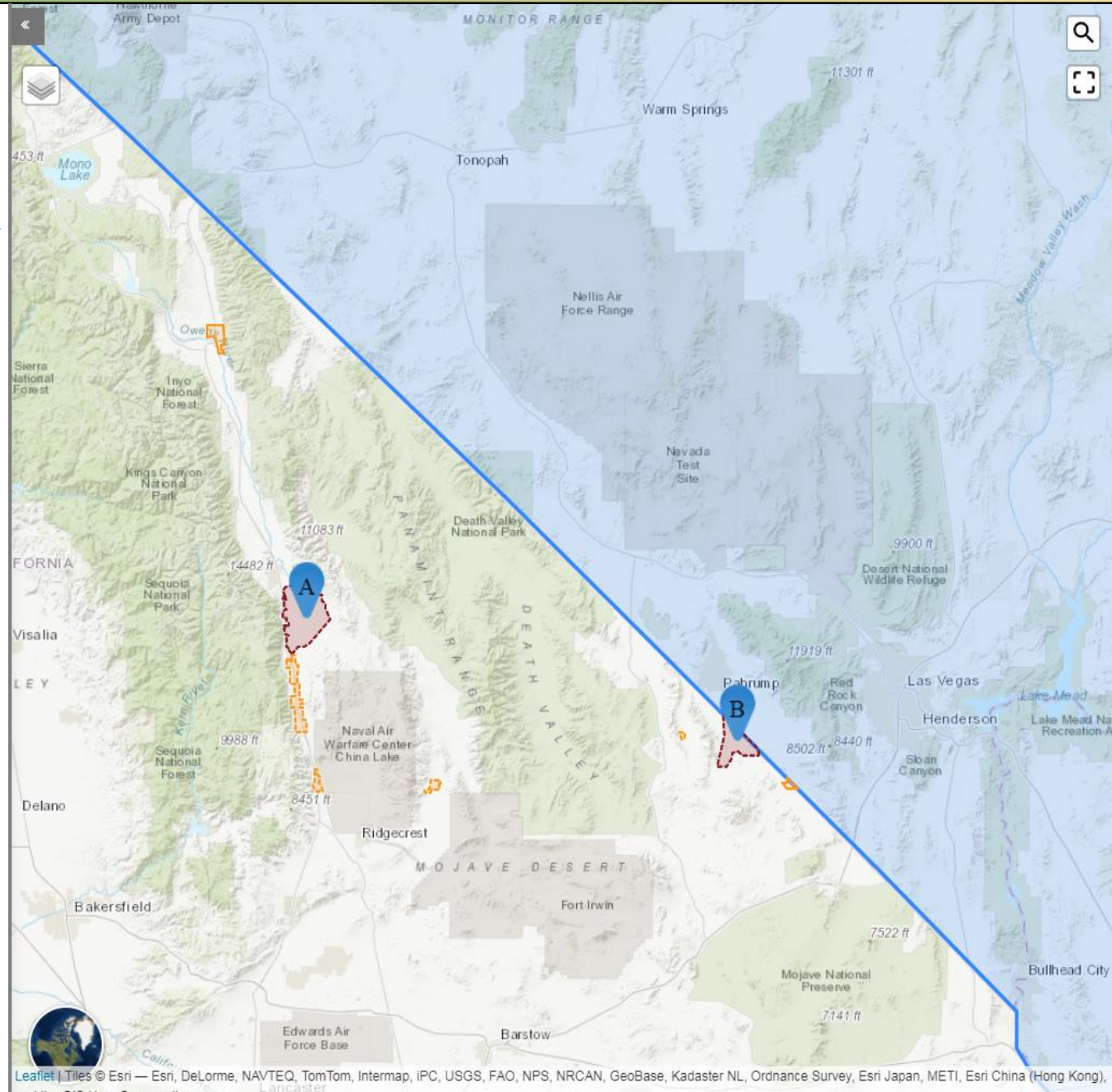


OR

Add study area from shapefile 

 Add Shapefile

 Save



# Regional Conservation Assessment Planning Tool

Log In



Select Ecoregion

Select Targets

Review Model

Assess Areas

Get Results

Conservation Value

Conservation Value

Shape A

Very Low

0%

Low

0%

Moderately Low

27%

Moderately High

32%

High

19%

Very High

22%

Shape B

Very Low

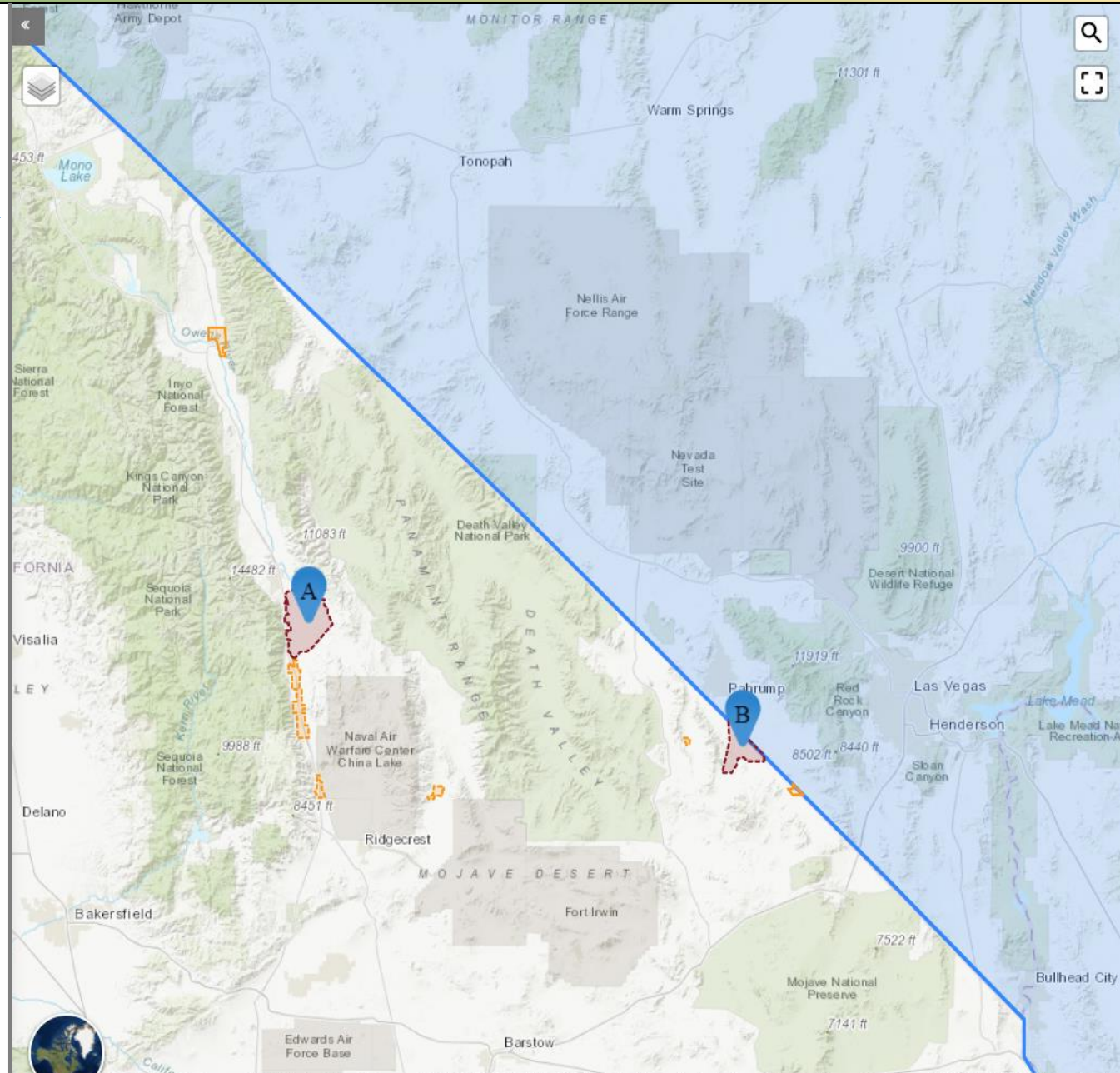
0%

Low

0%

Download

Save





# Regional Conservation Assessment Planning Tool

Log In



Select Ecoregion

Select Targets

Review Model

Assess Areas

Get Results

Conservation Value

Conservation Value

Shape A

Very Low

0%

Low

0%

Moderately Low

27%

Moderately High

32%

High

19%

Very High

22%

Shape B

Very Low

0%

Low

0%

Download

Save

Choose items to include in report

## Boundaries

☒ DRECP

☐ San Joaquin Valley

## Environmental

☐ Climate Change Exposure

☐ Climate Site Sensitivity

☐ CNDDB

☐ Designated Critical Habitats

☐ Essential Connectivity Areas

☐ Important Bird Areas

☐ Protected Areas

☐ Terrestrial Intactness

☐ ACE - Native Amphibians

☐ ACE - Rare Amphibians

☐ ACE - Native Birds

☐ ACE - Rare Birds

☐ ACE - Native Fish

☐ ACE - Rare Fish

☐ ACE - Native Mammals

☐ ACE - Rare Mammals

☐ ACE - Native Plants

☐ ACE - Rare Plants

☐ ACE - Native Reptiles

☐ ACE - Rare Reptiles

☒ Conservation Value (DRECP)

☐ Essential Connectivity Areas (DRECP)

☐ Species Stack (DRECP)

☐ Least Conflict Areas (SJV)

Go



# IRCAD RCA: Next Steps

- Refine the Conservation Value Model
- Refine the User Interface with Conservation Value Models and associated Map Products
- Complete the Demonstration Project
- Develop Project Evaluation and Reporting Tools
- Advance Statewide Implementation Strategy



# Discussion Questions

We want your input regarding the future of RCAs and the IRCAD initiative. Please consider the following points during this presentation, for discussion during the next session.

1. What is most useful about standardized Regional Conservation Assessments and the IRCAD approach?
2. What are impediments to carrying out Regional Conservation Assessments across the State?
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